Remarks

Reconsideration and withdrawal of the rejection set forth in the above-mentioned Official Action in view of the foregoing amendments and the following remarks are respectfully requested.

Claims 6-11 are now pending in the application, with Claims 6 and 9 being independent. Claims 1 and 3-5 have been cancelled without prejudice. Claims 6-11 have been added herein.

Claims 1 and 3-5 were rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent Application Publication No. 2002/0057301 (Ikeda) in view of U.S. Patent No. 6,318,836 (Hasegawa et al.). Since Claims 1 and 3-5 have been cancelled without prejudice, the § 103 rejection is deemed moot. Nevertheless, the newly-presented claims are believed to be patentable over the citations of record for the following reasons.

As is recited in independent Claim 6, the present invention relates to an ink jet recording apparatus which moves a carriage having a print head mounted thereon to eject ink from the print head onto a print medium. The ink jet recording apparatus includes a platen, a guide shaft, a cam, a carriage lift mechanism, and a restriction portion. The platen guides a print medium at a position opposite to the print head. The guide shaft guides movement of the carriage. The cam is disposed at the guide shaft, and the cam rotates together with the guide shaft. The carriage lift mechanism is capable of lifting the carriage to a first position at which a distance to the platen is a first distance and a second position at which a distance to the platen is a second distance by transmitting drive of a motor to the cam. The restriction portion is disposed at the cam, and abuts against the

carriage when the carriage is at the second position, thereby changing a movement range of the carriage so as to differ from a movement range when the carriage is at the first position. When the motor is driven to lift the carriage, judgment is made as to whether or not the carriage lift mechanism is operating normally by detecting the movement range of the carriage.

As is recited in independent Claim 9, the present invention relates to a method for moving a carriage having an ink jet print head mounted thereon to eject ink from the print head onto a print medium. The method includes the steps of guiding a print medium with a platen at a position opposite to the print head, guiding movement of the carriage with a guide shaft, rotating a cam disposed at the guide shaft, together with the guide shaft, lifting the carriage with a carriage lift mechanism to a first position at which a distance to the platen is a first distance and a second position at which a distance to the platen is a second distance by transmitting drive of a motor to the cam, changing a movement range of the carriage when the carriage is at the second position so as to differ from a movement range when the carriage is at the first position, by abutting a restriction portion, which is disposed at the cam, against the carriage, and judging, when the motor is driven to lift the carriage, whether or not the carriage lift mechanism is operating normally by detecting the movement range of the carriage.

With the above arrangement and method, it is possible to detect whether or not the carriage lift mechanism is operating normally by driving the motor.

Ikeda is directed to a recording apparatus that can detect the gap between the recording head and the surface of the recording medium. Linear encoder 101 on

carriage 50 can detect the carriage position by reading the number of lines on a linear scale 102. If the signal output is not changed when carriage motor 80 is driven, the serial-movement range of the carriage can be detected. Head-gap adjusting section 58 adjusts the gap between the head cartridge 7 and the recording sheet P by way of an adjusting lever 581, which is rotatable. By rotating the adjusting lever, the carriage is rotated about a guide shaft 81 so as to change the head gap. The adjusting lever is provided with a boss 581(b) that can restrict the left-side moving range of the carriage according to the position of the adjusting lever. This can change the movement range of the carriage and compensate for differences of ink drop impacting based on changes in the head gap.

However, Applicants respectfully submit that Ikeda does not disclose or suggest at least a cam which is disposed at a guide shaft and rotating together with the guide shaft and a carriage lifting mechanism lifting the carriage to a first position at which a distance to the platen is a first distance and a second position at which the distance to the platen is a second distance by transmitting drive of a motor to the cam, as is recited in independent Claims 6 and 9. Nor does Ikeda disclose or suggest judging, when the motor is driven to lift the carriage, whether or not the carriage lift mechanism is operating normally by detecting the movement range of the carriage, as is also recited in independent Claims 6 and 9.

Thus, Ikeda fails to disclose or suggest important features of the present invention recited in independent Claims 6 and 9.

Hasegawa et al. relates to an ink jet recording apparatus in which various errors can be checked, including scanning errors of various motors. An error message can

be displayed or a buzzer sounded if an error is detected. For example, a deviation amount of a carrier motor 10 can be measured by means of a home position sensor in order to correct misregistration in bidirectional recording. However, Hasegawa et al. does not detect an error in a motor that drives a cam used with a carriage lift mechanism or an error in that carriage lift mechanism, by detecting a movement range of the carriage. Accordingly, even if the motor error detection in Hasegawa et al. were incorporated in Ikeda, the resulting combination would not meet those features of the claims noted above as being deficient in Ikeda alone.

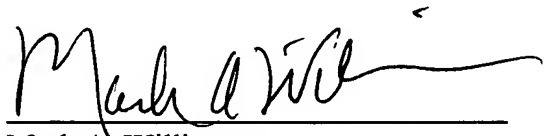
Thus, independent Claims 6 and 9 are patentable over the citations of record. Reconsideration and withdrawal of the § 103 rejection are respectfully requested.

For the foregoing reasons, Applicants respectfully submit that the present invention is patentably defined by independent Claims 6 and 9. Dependent Claims 7, 8, 10 and 11 are also allowable, in their own right, for defining features of the present invention in addition to those recited in their respective independent claims. Individual consideration of the dependent claims is requested.

Applicants submit that the present application is in condition for allowance. Favorable reconsideration, withdrawal of the rejection set forth in the above-noted Office Action, and an early Notice of Allowability are requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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